

Please amend the above-identified patent application, without prejudice, as follows:

IN THE CLAIMS:

Amend claims 1-3, 7, 12 and 13 by replacement as follows:

1. (twice amended) Electroluminescent device comprising in this order

(a) an anode

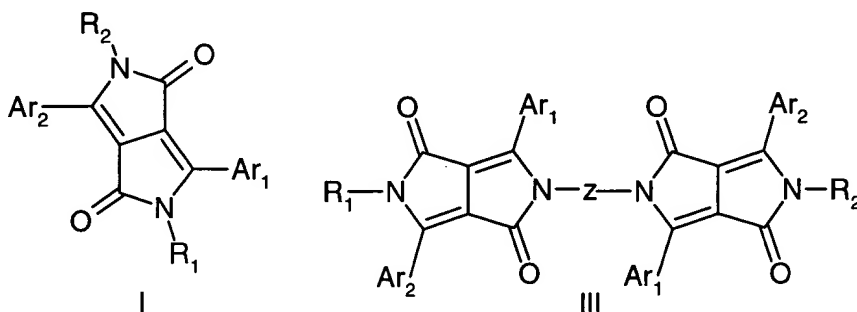
(b) a hole transporting layer

(c) a light-emitting layer

(d) optionally an electron transporting layer and

(e) a cathode

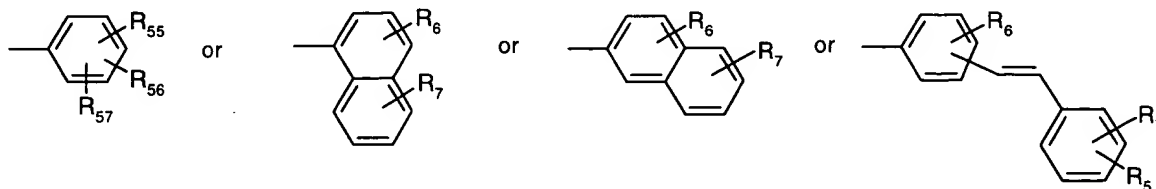
and a light-emitting substance, wherein the light-emitting substance is a diketopyrrolopyrrole ("DPP") represented by formula I or formula III

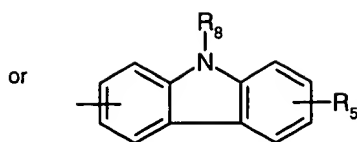


wherein R₁ and R₂, independently from each other, stand for C₁-C₂₅-alkyl, allyl which can be substituted one to three times with C₁-C₃alkyl or Ar₃, or -CR₃R₄-(CH₂)_m-Ar₃, wherein R₃ and R₄ independently from each other stand for hydrogen, C₁-C₄alkyl, or phenyl which can be substituted one to three times with C₁-C₃ alkyl,

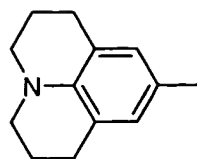
Ar₃ stands for phenyl or 1- or 2-naphthyl which can be substituted one to three times with C₁-C₈alkyl, C₁-C₈alkoxy, halogen or phenyl, which can be substituted with C₁-C₈alkyl or C₁-C₈alkoxy one to three times, and m stands for 0, 1, 2, 3 or 4,

Ar₁ and Ar₂, independently from each other, stand for

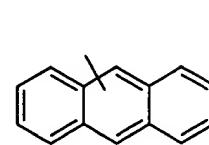
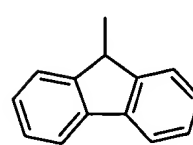
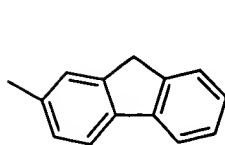
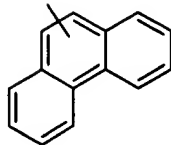
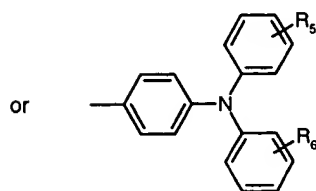




or julolidyl,



, which can be substituted one to four times with C₁-C₄alkyl, C₁-C₄alkoxy, or phenyl



, or

wherein

R₅, R₆ and R₇, independently from each other, stand for hydrogen, cyano, halogen, C₁-C₆alkyl, -NR₈R₉, -OR₁₀, -S(O)_nR₈, -Se(O)_nR₈, or phenyl, which can be substituted one to three times with C₁-C₈alkyl or C₁-C₈alkoxy,

R₅₅, R₅₆ and R₅₇, independently from each other, stand for hydrogen, cyano, halogen, -NR₈R₉, -OR₁₀, -S(O)_nR₈, -Se(O)_nR₈, or phenyl, which can be substituted one to three times with C₁-C₈alkyl or C₁-C₈alkoxy,

with the proviso that R₅₆ and R₅₇ do not simultaneously stand for hydrogen,

wherein R₈ and R₉, independently from each other, stand for hydrogen, phenyl, C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl, -CR₃R₄-(CH₂)_m-Ph, R₁₀, wherein R₁₀ stands for C₆-C₂₄-aryl, or a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms,

wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein Ph, the aryl and heterocyclic radical can be substituted one to three times with C₁-C₈alkyl, C₁-C₈alkoxy, or halogen, or

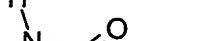
R₈ and R₉ stand for -C(O)R₁₁, wherein R₁₁ can be C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl, R₁₀, -OR₁₂ or -NR₁₃R₁₄, wherein R₁₂, R₁₃, and R₁₄ stand for C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl, C₆-C₂₄-aryl,

or


R₅, R₆ and R₇, independently of one another, stand for a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms, wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein the aryl and heterocyclic radical can be substituted one to three times with C₁-C₈alkyl or C₁-C₈alkoxy, or -NR₈R₉,

C1
Cont

Chemical structures of the compounds are shown below:

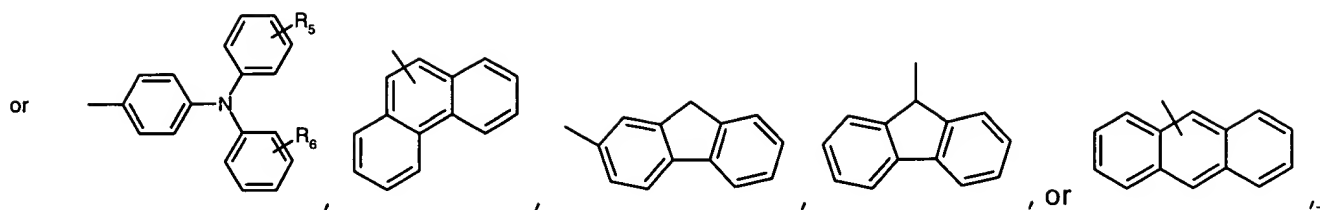


Va



Vb

, which can be substituted one to four times with C₁-C₄alkyl, C₁-C₄alkoxy, or phenyl



wherein

R_5 , R_6 and R_7 , independently from each other, stand for hydrogen, cyano, halogen, C_1 - C_6 alkyl, $-NR_8R_9$, $-OR_{10}$, $-S(O)_nR_8$, $-Se(O)_nR_8$, or phenyl, which can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy,

wherein R_8 and R_9 , independently from each other, stand for hydrogen, phenyl, C_1 - C_{25} alkyl, C_5 - C_{12} cycloalkyl, $-CR_3R_4-(CH_2)_m-Ph$, R_{10} , wherein R_{10} stands for C_6 - C_{24} aryl, or a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms,

wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein Ph, the aryl and heterocyclic radical can be substituted one to three times with C_1 - C_8 alkyl, C_1 - C_8 alkoxy, or halogen, or

R_8 and R_9 stand for $-C(O)R_{11}$, wherein R_{11} can be C_1 - C_{25} alkyl, C_5 - C_{12} cycloalkyl, R_{10} , $-OR_{12}$ or $-NR_{13}R_{14}$,
wherein

R_{12} , R_{13} , and R_{14} stand for C_1 - C_{25} alkyl, C_5 - C_{12} cycloalkyl, C_6 - C_{24} aryl,

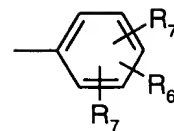
or

R_5 , R_6 and R_7 , independently of one another, stand for a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms, wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein the aryl and heterocyclic radical can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy,

or $-NR_8R_9$ stands for a five- or six-membered heterocyclic radical in which R_8 and R_9 together stand for tetramethylene, pentamethylene, $-CH_2-CH_2-O-CH_2-CH_2-$, or

$-CH_2-CH_2-NR'_5-CH_2-CH_2-$, and n stands for 0, 1, 2 or 3, wherein R'_5 independently from each other, stand for hydrogen, cyano, halogen, C_1 - C_6 alkyl, $-OR_{10}$, $-S(O)_nR_8$, $-Se(O)_nR_8$, or phenyl, which can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy,

and wherein Z stands for a diradical selected from the group consisting of a single bond, C_2 - C_6 alkylene, which can be substituted one to three times with C_1 - C_4 alkyl, C_1 - C_4 alkoxy, or phenyl, phenylene or naphthylene, with the proviso that R_6 and R_7 do not stand simultaneously for hydrogen

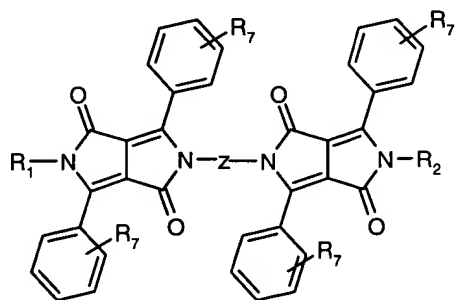


wherein in case of the DPP represented by formula III Ar₁ and Ar₂ can also stand for wherein R₅, R₆ and R₇, independently from each other, stand for hydrogen, cyano, halogen, C₁-C₆alkyl, -NR₈R₉, -OR₁₀, -S(O)_nR₈, -Se(O)_nR₈, or phenyl, which can be substituted one to three times with C₁-C₈alkyl or C₁-C₈alkoxy,

with a base, then, in a second step, treating the reaction mixture obtained in the first step with an alkylating agent, wherein in the first step the base is a hydride, an alkali metal alkoxide or a carbonate, and the alkylating agent is a compound of the formula (R₁)_{1 or 2}X, wherein X stands for SO₃⁻, (p-Me-phenyl)SO₃⁻, (2,4,6-trimethyl-phenyl)-, SO₃⁻, -CO₃⁻, -SO₄⁻, or halogen, or a mixture of (R₁)_{1 or 2}X and (R₂)_{1 or 2}X, wherein R₁ and R₂ are independently from each other, C₁-C₂₅-alkyl, allyl which can be substituted one to three times with C₁-C₃alkyl or Ar₃, or -CR₃R₄-(CH₂)_m-Ar₃, wherein R₃ and R₄ independently from each other stand for hydrogen or C₁-C₄alkyl, or phenyl which can be substituted one to three times with C₁-C₃ alkyl,

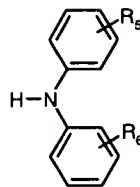
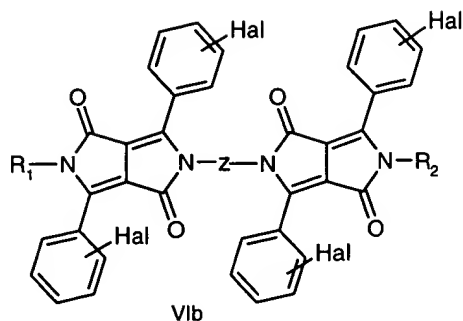
Ar₃ stands for phenyl or 1- or 2-naphthyl which can be substituted one to three times with C₁-C₈alkyl, C₁-C₈alkoxy, halogen or phenyl, which can be substituted with C₁-C₈alkyl or C₁-C₈alkoxy one to three times, and m stands for 0, 1, 2, 3 or 4.

3. (twice amended) Process for the preparation of compounds represented by formula IIIa



IIIa

comprising (a) treating in a first step the DPP derivative of formula VIa or formula VIb



wherein R_7 stand for $-NR_8R_9$, $-OR_{10}$, $-S(O)_nR_8$, $-Se(O)_nR_8$, or

independently from each other, stand for hydrogen, cyano, halogen, C_1 - C_6 alkyl, $-NR'_8R'_9$, $-OR_{10}$, $-S(O)_nR'_8$, $-Se(O)_nR'_8$, wherein

R_8 and R_9 , independently from each other, stand for hydrogen, phenyl, C_1 - C_{25} -alkyl, C_5 - C_{12} -cycloalkyl, $-CR_3R_4-(CH_2)_m-Ph$, R_{10} , wherein R_{10} stands for C_6 - C_{24} -aryl, or a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms,

wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein Ph, the aryl and heterocyclic radical can be substituted one to three times with C_1 - C_8 alkyl, C_1 - C_8 alkoxy, or halogen, or

R_8 and R_9 stand for $-C(O)R_{11}$, wherein R_{11} can be C_1 - C_{25} -alkyl, C_5 - C_{12} -cycloalkyl, R_{10} , $-OR_{12}$ or $-NR_{13}R_{14}$, wherein R_{12} , R_{13} , and R_{14} stand for C_1 - C_{25} -alkyl, C_5 - C_{12} -cycloalkyl, C_6 - C_{24} -aryl,

R'_8 and R'_9 , independently from each other, stand for hydrogen, phenyl, C_1 - C_{25} -alkyl, C_5 - C_{12} -cycloalkyl, $-CR_3R_4-(CH_2)_m-Ph$, R_{10} , wherein R_{10} stands for C_6 - C_{24} -aryl, or a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms, wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein Ph, the aryl and heterocyclic radical can be substituted one to three times with C_1 - C_8 alkyl, C_1 - C_8 alkoxy, or halogen, or

or $-NR_8R_9$ stands for a five- or six-membered heterocyclic radical in which R_8 and R_9 together stand for tetramethylene, pentamethylene, $-CH_2-CH_2-O-CH_2-CH_2-$, or

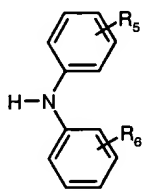
-CH₂-CH₂-NR'₅-CH₂-CH₂-, wherein R'₅ independently from each other, stand for hydrogen, cyano, halogen, C₁-C₆alkyl, -OR₁₀, -S(O)_nR₈, -Se(O)_nR₈, or phenyl, which can be substituted one to three times with C₁-C₈alkyl or C₁-C₈alkoxy, and n stands for 0, 1, 2 or 3,

R'₈ and R'₉, independently from each other, stand for hydrogen, phenyl, C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl, -CR₃R₄-(CH₂)_m-Ph, R₁₀, wherein R₁₀ is as defined above, or

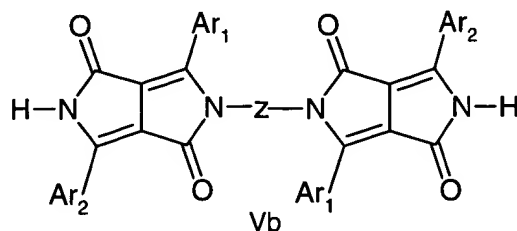
R'₈ and R'₉ stand for -C(O)R₁₁, wherein R₁₁ is as defined above,

or -NR'₈R'₉ stands for a five- or six-membered heterocyclic radical in which R'₈ and R'₉ together stand for tetramethylene, pentamethylene, -CH₂-CH₂-O-CH₂-CH₂-, or -CH₂-CH₂-NR'₅-CH₂-CH₂-, wherein R'₅ stand for hydrogen, cyano, halogen, C₁-C₆alkyl, -OR₁₀, -S(O)_nR₈, -Se(O)_nR₈, or phenyl, which can be substituted one to three times with C₁-C₈alkyl or C₁-C₈alkoxy, and n is as defined above,

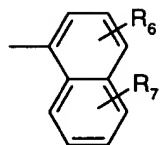
R₁ and R₂ are independently from each other, hydrogen, C₁-C₂₅-alkyl, allyl which can be substituted one to three times with C₁-C₃alkyl or Ar₃, or -CR₃R₄-(CH₂)_m-Ar₃, wherein R₃ and R₄ independently from each other stand for hydrogen, C₁-C₄alkyl, or phenyl which can be substituted one to three times with C₁-C₃, Hal stands for halogen, with a nucleophilic agent selected from -NR₈R₉, -OR₁₀, -S(O)_nR₈, -



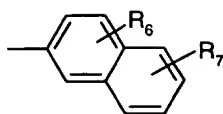
Se(O)_nR₈, or , in a molar ratio of DPP VIa or VIb:nucleophilic agent in the range of 1.2:1 to 0.8:1, or, if R₂ has the same meaning as R₁ in the range of from 1:2.5 to 1:1, in the presence of an anhydrous dipolar aprotic solvent, and of an anhydrous base in an amount in the range of from 0.1 to 15 moles per mole of the nucleophilic agent, at a temperature in the range of from 100 to 220°C and under a pressure in the range of from 100 to 300 kPa, and optionally isolating the obtained compound



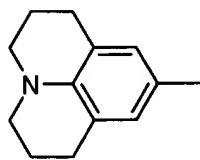
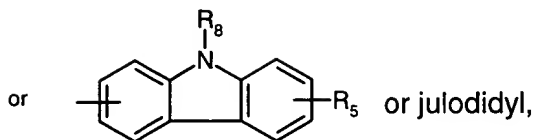
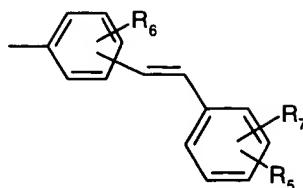
(b) then treating the obtained compound Va or Vb, wherein Ar₁ and Ar₂ are as defined in claim 7 independently from each other,



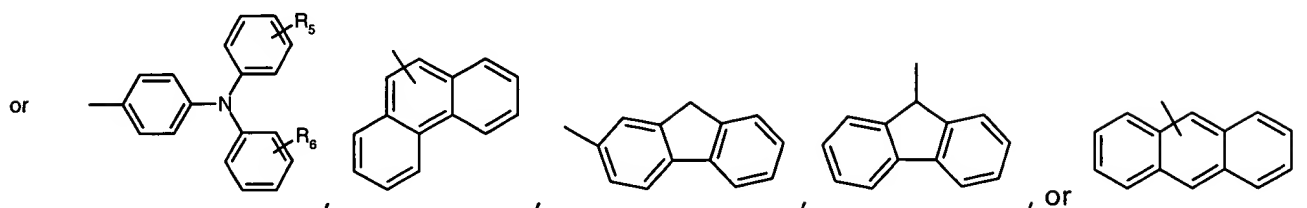
or



or



, which can be substituted one to four times with C_1 - C_4 alkyl, C_1 - C_4 alkoxy, or phenyl



wherein

R_5 , R_6 and R_7 , independently from each other, stand for hydrogen, cyano, halogen, C_1 - C_6 alkyl, $-NR_8R_9$, $-OR_{10}$, $-S(O)_nR_{8'}$, $-Se(O)_nR_{8'}$, or phenyl, which can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy,

wherein R_8 and R_9 , independently from each other, stand for hydrogen, phenyl, C_1 - C_{25} alkyl, C_5 - C_{12} -cycloalkyl, $-CR_3R_4-(CH_2)_m$ -Ph, R_{10} , wherein R_{10} stands for C_6 - C_{24} -aryl, or a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms,

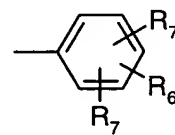
wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein Ph, the aryl and heterocyclic radical can be substituted one to three times with C_1 - C_8 alkyl, C_1 - C_8 alkoxy, or halogen, or

R_8 and R_9 stand for $-C(O)R_{11}$, wherein R_{11} can be C_1 - C_{25} alkyl, C_5 - C_{12} -cycloalkyl, $R_{10'}$, $-OR_{12}$ or $-NR_{13}R_{14}$, wherein

R_{12} , R_{13} , and R_{14} stand for C_1 - C_{25} alkyl, C_5 - C_{12} -cycloalkyl, C_6 - C_{24} -aryl,

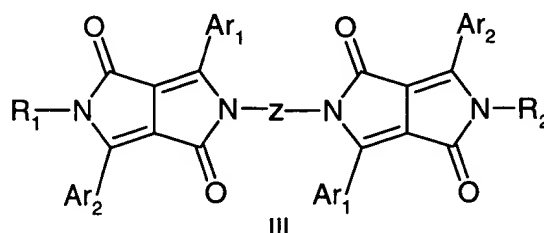
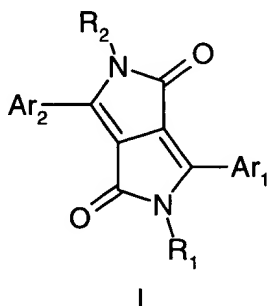
or

R_5 , R_6 and R_7 , independently of one another, stand for a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms, wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein the aryl and heterocyclic radical can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy, or $-NR_8R_9$ stands for a five- or six-membered heterocyclic radical in which R_8 and R_9 together stand for tetramethylene, pentamethylene, $-\text{CH}_2\text{-CH}_2\text{-O-CH}_2\text{-CH}_2-$, or $-\text{CH}_2\text{-CH}_2\text{-NR}'_5\text{-CH}_2\text{-CH}_2-$, and n stands for 0, 1, 2 or 3, wherein R'_5 independently from each other, stand for hydrogen, cyano, halogen, C_1 - C_6 alkyl, $-\text{OR}_{10}$, $-\text{S(O)}_n\text{R}_8$, $-\text{Se(O)}_n\text{R}_8$, or phenyl, which can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy, and wherein Z stands for a diradical selected from the group consisting of a single bond, C_2 - C_6 alkylene, which can be substituted one to three times with C_1 - C_4 alkyl, C_1 - C_4 alkoxy, or phenyl, phenylene or naphthylene, with the proviso that R_6 and R_7 do not stand simultaneously for hydrogen



wherein in case of the DPP represented by formula III Ar_1 and Ar_2 can also stand for wherein R_5 , R_6 and R_7 , independently from each other, stand for hydrogen, cyano, halogen, C_1 - C_6 alkyl, $-\text{NR}_8R_9$, $-\text{OR}_{10}$, $-\text{S(O)}_n\text{R}_8$, $-\text{Se(O)}_n\text{R}_8$, or phenyl, which can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy, with a base, thereafter in a second step, treating the reaction mixture obtained in the first step of (b) with an alkylating agent, wherein in the first step of (b) the base is a hydride, an alkali metal alkoxide or a carbonate, and the alkylating agent is a compound of the formula $(R_1)_{1 \text{ or } 2}\text{X}$, wherein X stands for SO_3^- , $(p\text{-Me-phenyl})\text{-SO}_3^-$, $(2,4,6\text{-trimethyl-phenyl})\text{-SO}_3^-$, $-\text{CO}_3^-$, $-\text{SO}_4^-$, or halogen, or a mixture of $(R_1)_{1 \text{ or } 2}\text{X}$ and $(R_2)_{1 \text{ or } 2}\text{X}$.

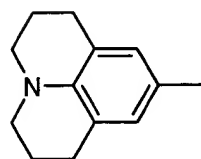
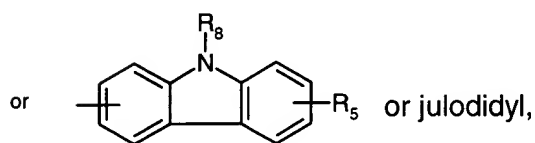
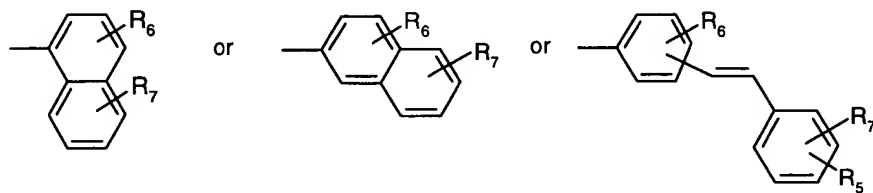
7. (twice amended) Fluorescent diketopyrrolopyrrole represented by formula I or formula III



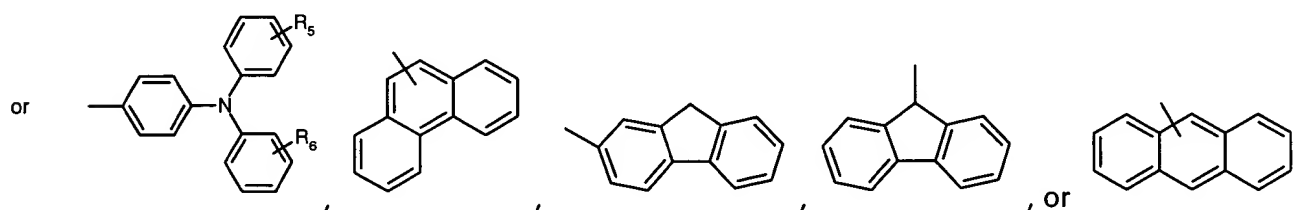
wherein R_1 and R_2 , independently from each other, stand for C_1 - C_{25} -alkyl, allyl which can be substituted one to three times with C_1 - C_3 alkyl or Ar_3 , or $-CR_3R_4-(CH_2)_m-Ar_3$, wherein R_3 and R_4 independently from each other stand for hydrogen or C_1 - C_4 alkyl, or phenyl which can be substituted one to three times with C_1 - C_3 alkyl,

Ar_3 stands for phenyl or 1- or 2-naphthyl which can be substituted one to three times with C_1 - C_8 alkyl, C_1 - C_8 alkoxy, halogen or phenyl, which can be substituted with C_1 - C_8 alkyl or C_1 - C_8 alkoxy one to three times, and m stands for 0, 1, 2, 3 or 4,

Ar_1 and Ar_2 , independently from each other, stand for



, which can be substituted one to four times with C_1 - C_4 alkyl, C_1 - C_4 alkoxy, or phenyl



wherein

R_5 , R_6 and R_7 , independently from each other, stand for hydrogen, cyano, halogen, C_1 - C_6 alkyl, $-NR_8R_9$, $-OR_{10}$, $-S(O)_nR_8$, $-Se(O)_nR_8$, or phenyl, which can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy,

wherein R_8 and R_9 , independently from each other, stand for hydrogen, phenyl, C_1 - C_{25} -alkyl, C_5 - C_{12} -cycloalkyl, $-CR_3R_4-(CH_2)_m-Ph$, R_{10} , wherein R_{10} stands for C_6 - C_{24} -aryl, or a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms,

wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein Ph, the aryl and heterocyclic radical can be substituted one to three times with C₁-C₈alkyl, C₁-C₈alkoxy, or halogen, or R₈ and R₉ stand for -C(O)R₁₁, wherein R₁₁ can be C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl, R₁₀, -OR₁₂ or -NR₁₃R₁₄, wherein

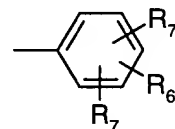
R₁₂, R₁₃, and R₁₄ stand for C₁-C₂₅-alkyl, C₅-C₁₂-cycloalkyl, C₆-C₂₄-aryl,

or

R₅, R₆ and R₇, independently of one another, stand for a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms, wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein the aryl and heterocyclic radical can be substituted one to three times with C₁-C₈alkyl or C₁-C₈alkoxy, or -NR₈R₉ stands for a five- or six-membered heterocyclic radical in which R₈ and R₉ together stand for tetramethylene, pentamethylene, -CH₂-CH₂-O-CH₂-CH₂-, or

-CH₂-CH₂-NR'₅-CH₂-CH₂-, and n stands for 0, 1, 2 or 3, wherein R'₅ independently from each other, stand for hydrogen, cyano, halogen, C₁-C₆alkyl, -OR₁₀, -S(O)_nR₈, -Se(O)_nR₈, or phenyl, which can be substituted one to three times with C₁-C₈alkyl or C₁-C₈alkoxy,

and wherein Z stands for a diradical selected from the group consisting of a single bond, C₂-C₆alkylene, which can be substituted one to three times with C₁-C₄alkyl, C₁-C₄alkoxy, or phenyl, phenylene or naphthylene, with the proviso that R₆ and R₇ do not stand simultaneously for hydrogen,

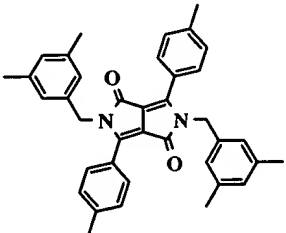
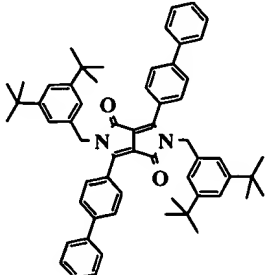
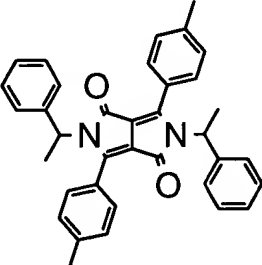
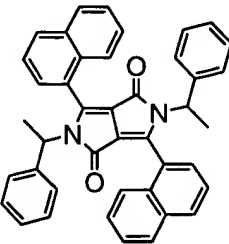
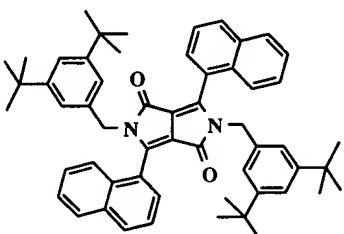
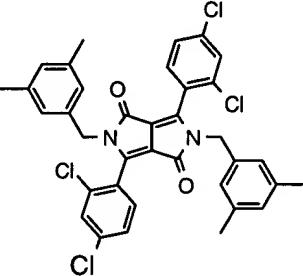
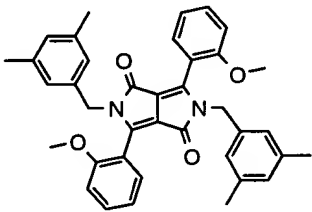
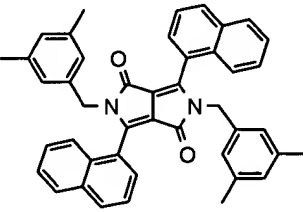
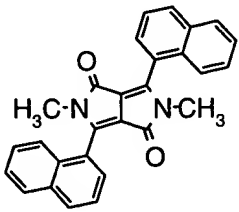
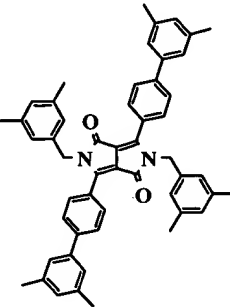


wherein in case of the DPP represented by formula III Ar₁ and Ar₂ can also stand for

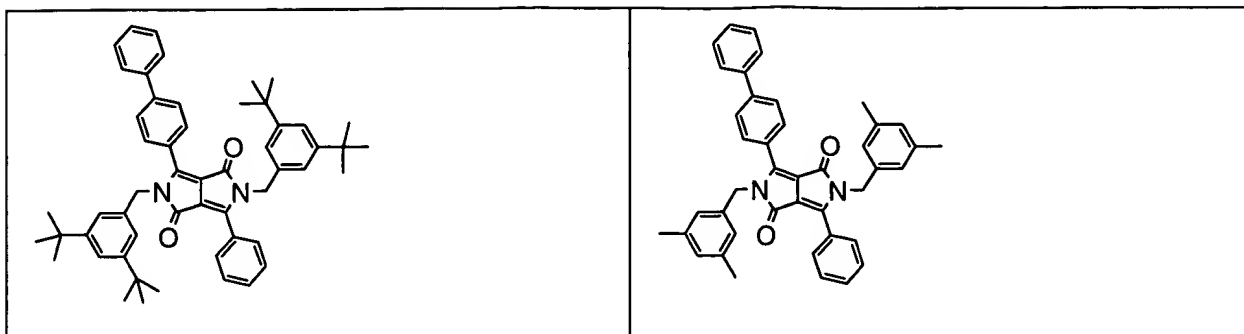
wherein R₅, R₆ and R₇, independently from each other, stand for hydrogen, cyano, halogen, C₁-C₆alkyl, -NR₈R₉, -OR₁₀, -S(O)_nR₈, -Se(O)_nR₈, or phenyl, which can be substituted one to three times with C₁-C₈alkyl or C₁-C₈alkoxy.

12. (amended) An electroluminescent device according to claim 1 wherein R₈ and R₉ together stand for -CH₂-CH₂-O-CH₂-CH₂-.

13. A compound according to the formulae

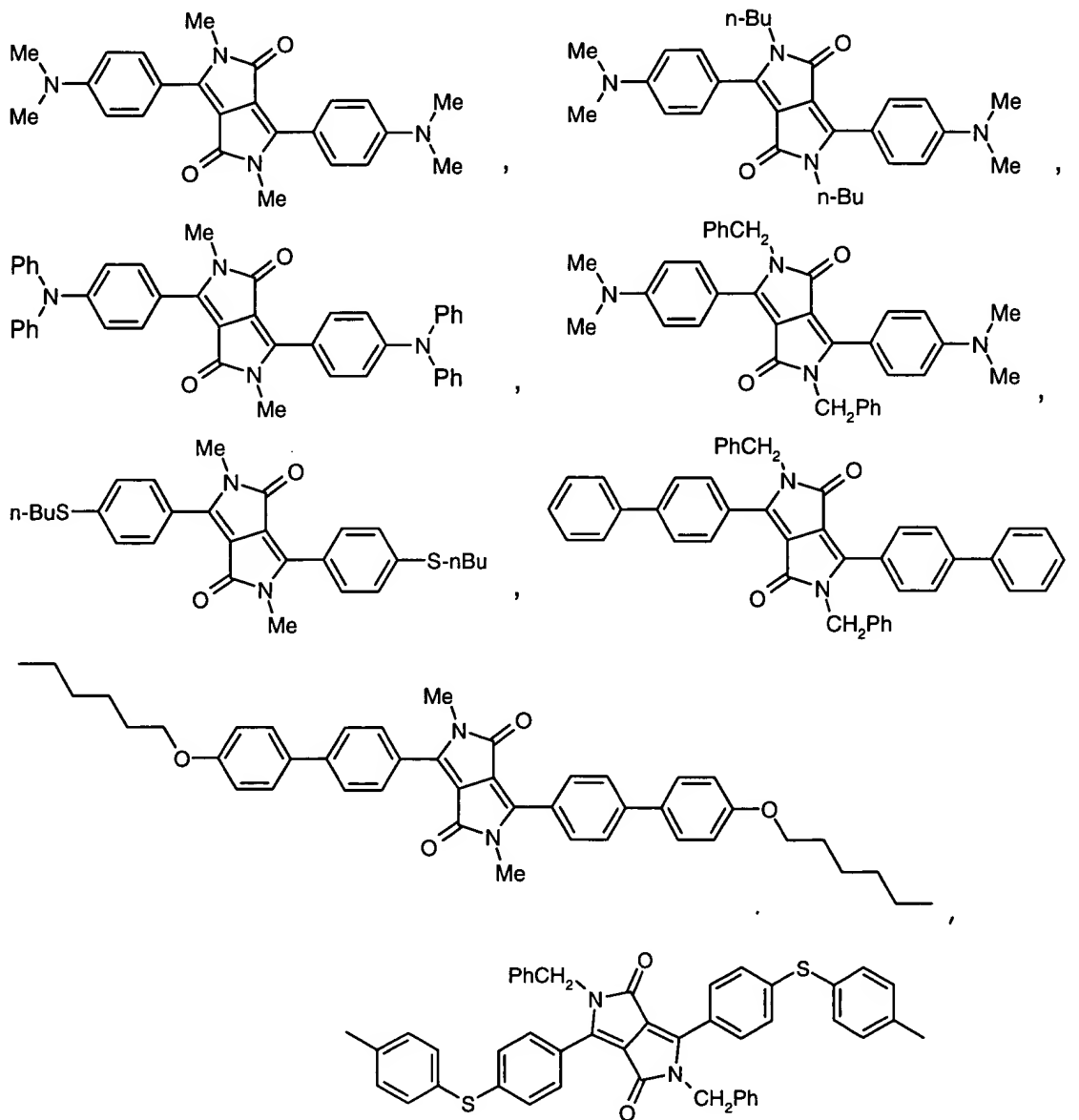
	
	
	
	
	

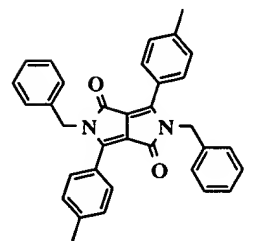
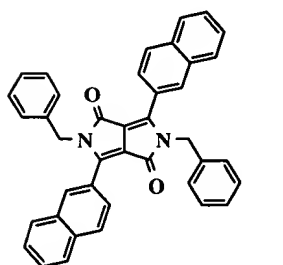
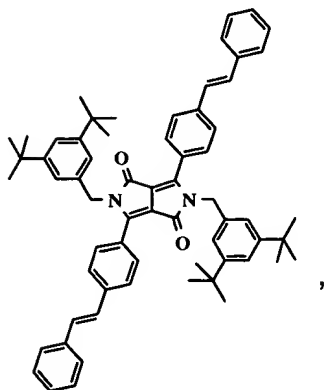
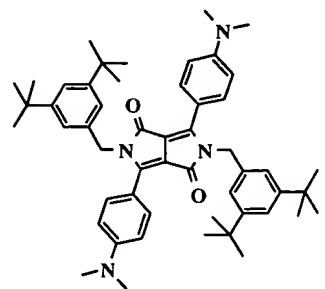
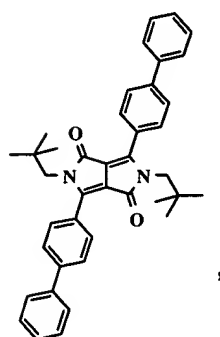
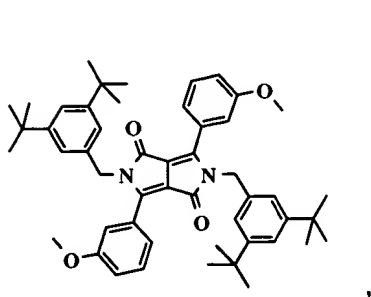
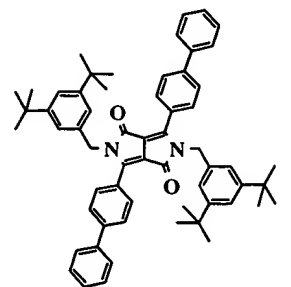
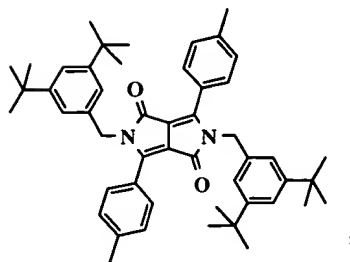
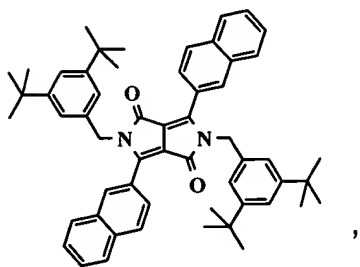
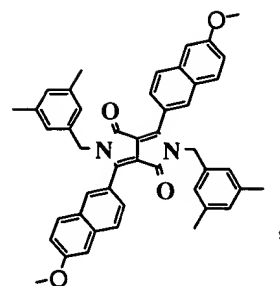
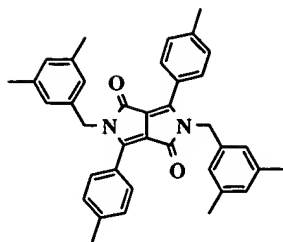
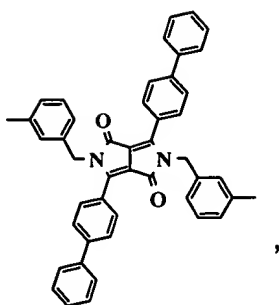
C3
Cont



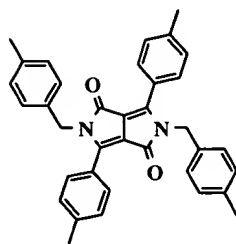
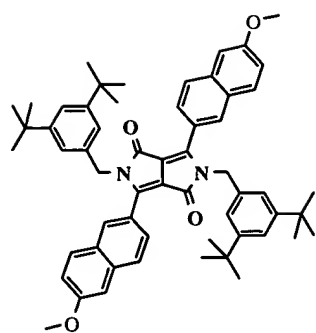
14. (new) A compound according to the formulae

24

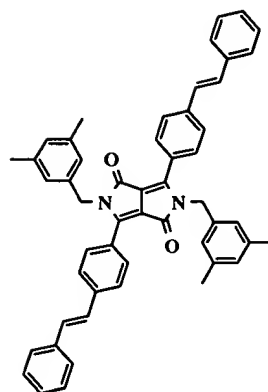




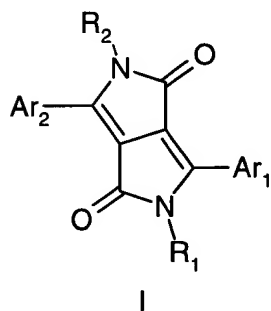
CP
Cont



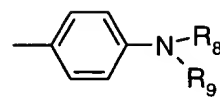
and



15. (new) A compound of formula I

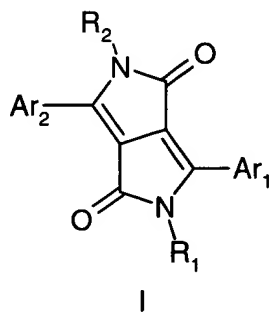


wherein R_1 and R_2 are C_1 - C_8 alkyl, Ar_1 and Ar_2 are a group of formula



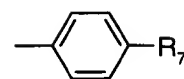
, wherein R_8 and R_9 are C_1 - C_8 alkyl or phenyl.

16. (new) A compound of formula I



, wherein

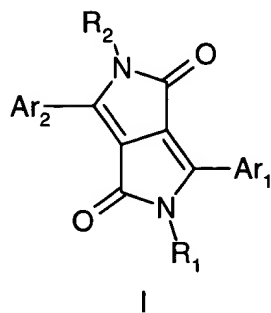
R_1 and R_2 are C_1 - C_8 alkyl, or $-(CH_2)_m$ -Ph, Ar_1 and Ar_2 are a group of formula



$-OR_{10}$, $-N(R_8)_2$ or unsubstituted or substituted phenyl, wherein R_{10} stands for C_6 - C_{24} -aryl, or a saturated

or unsaturated heterocyclic radical comprising five to seven ring atoms, wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein Ph, the aryl and heterocyclic radical can be substituted one to three times with C_1 - C_8 alkyl, C_1 - C_8 alkoxy, or halogen and R_8 is C_1 - C_8 alkyl, phenyl or a heterocyclic radical, both unsubstituted or substituted, or C_5 - C_{12} -cycloalkyl.

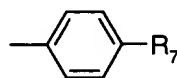
17. (new) A compound of formula I



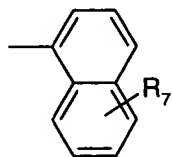
, wherein

R_1 and R_2 are $-CH_2$ -Ph, wherein phenyl can be substituted with phenyl, naphthyl or C_1 - C_4 alkyl up to

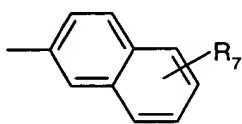
two times, Ar_1 and Ar_2 are a group of formula



, wherein R_7 is C_1 - C_8 alkyl or phenyl, or a

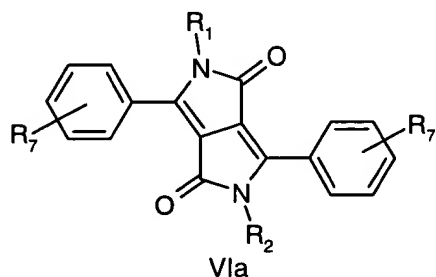


, or

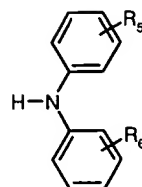
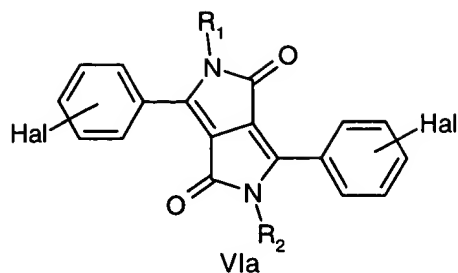


, wherein R_7 is hydrogen or OMe.

18. (new) Process for the preparation of compounds represented by formula Ia



comprising (a) treating in a first step the DPP derivative of formula VIa or formula VIb



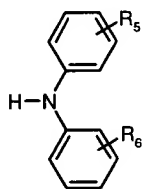
wherein R_7 stand for $-NR_8R_9$, $-OR_{10}$, $-S(O)_nR_8$, $-Se(O)_nR_8$ or $-NR'_8R'_9$, $-OR_{10}$, $-S(O)_nR'_8$, $-Se(O)_nR'_8$, wherein R_8 and R_9 , independently from each other, stand for hydrogen, phenyl, C_1 - C_{25} -alkyl, C_5 - C_{12} -cycloalkyl, $-CR_3R_4-(CH_2)_m-Ph$, R_{10} , wherein R_{10} stands for C_6 - C_{24} -aryl, or a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms, wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein Ph, the aryl and heterocyclic radical can be substituted one to three times with C_1 - C_8 alkyl, C_1 - C_8 alkoxy, or halogen, or $-NR_8R_9$ stands for a five- or six-membered heterocyclic radical in which R_8 and R_9 together stand for tetramethylene, pentamethylene, $-CH_2-CH_2-O-CH_2-CH_2-$, or $-CH_2-CH_2-NR'_5-CH_2-CH_2-$, wherein R'_5 independently from each other, stand for hydrogen, cyano, halogen, C_1 - C_6 alkyl, $-OR_{10}$, $-S(O)_nR_8$, $-Se(O)_nR_8$, or phenyl, which can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy, and n stands for 0, 1, 2 or 3,

R'_8 and R'_9 , independently from each other, stand for hydrogen, phenyl, C_1 - C_{25} -alkyl, C_5 - C_{12} -cycloalkyl, $-CR_3R_4-(CH_2)_m-Ph$, R_{10} , wherein R_{10} is as defined above, or

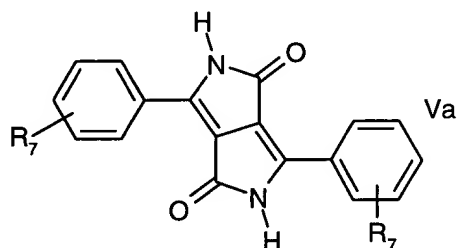
R'_8 and R'_9 stand for $-C(O)R_{11}$, wherein R_{11} is as defined above,

or $-NR'_8R'_9$ stands for a five- or six-membered heterocyclic radical in which R'_8 and R'_9 together stand for tetramethylene, pentamethylene, $-CH_2-CH_2-O-CH_2-CH_2-$, or $-CH_2-CH_2-NR'_5-CH_2-CH_2-$, wherein R'_5 stand for hydrogen, cyano, halogen, C_1 - C_6 -alkyl, $-OR_{10}$, $-S(O)_nR_8$, $-Se(O)_nR_8$, or phenyl, which can be substituted one to three times with C_1 - C_8 -alkyl or C_1 - C_8 -alkoxy, and n is as defined above,

R_1 and R_2 are independently from each other, hydrogen, C_1 - C_{25} -alkyl, allyl which can be substituted one to three times with C_1 - C_3 -alkyl or Ar_3 , or $-CR_3R_4-(CH_2)_m-Ar_3$, wherein R_3 and R_4 independently from each other stand for hydrogen, C_1 - C_4 -alkyl, or phenyl which can be substituted one to three times with C_1 - C_3 , Hal stands for halogen, with a nucleophilic agent selected from a selected from $-NR_8R_9$, $-OR_{10}$, -

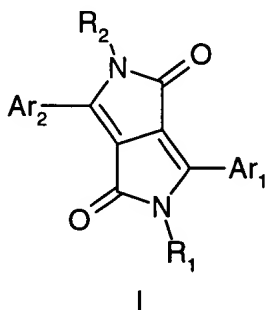


$S(O)_nR_8$, $-Se(O)_nR_8$, or , in a molar ratio of DPP VIa or VIb:nucleophilic agent in the range of 1.2:1 to 0.8:1, or, if R_2 has the same meaning as R_1 in the range of from 1:2.5 to 1:1, in the presence of an anhydrous dipolar aprotic solvent, and of an anhydrous base in an amount in the range of from 0.1 to 15 moles per mole of the nucleophilic agent, at a temperature in the range of from 100 to 220°C and under a pressure in the range of from 100 to 300 kPa, and optionally isolating the obtained compound



(b) then treating the obtained compound Va, wherein R_7 is as defined above, with a base, thereafter in a second step, treating the reaction mixture obtained in the first step of (b) with an alkylating agent, wherein in the first step of (b) the base is a hydride, an alkali metal alkoxide or a carbonate, and the alkylating agent is a compound of the formula $(R_1)_{1 \text{ or } 2}X$, wherein X stands for SO_3^- , (p-Me-phenyl)- SO_3^- , (2,4,6-trimethyl-phenyl) SO_3^- , $-CO_3^-$, $-SO_4^-$, or halogen, or a mixture of $(R_1)_{1 \text{ or } 2}X$ and $(R_2)_{1 \text{ or } 2}X$.

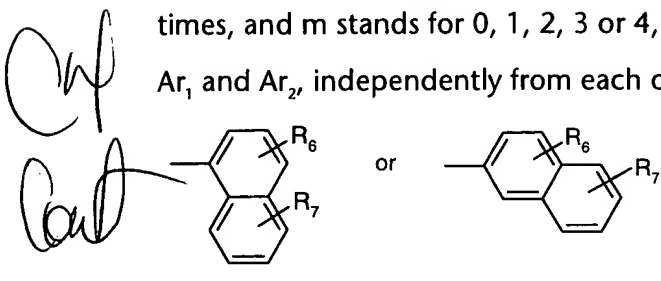
19. (new) Electroluminescent device according to claim 1, wherein, wherein the light-emitting substance is a diketopyrrolopyrrole ("DPP") represented by formula I



wherein R_1 and R_2 , independently from each other, stand for C_1 - C_{25} -alkyl, allyl which can be substituted one to three times with C_1 - C_3 alkyl or Ar_3 , or $-CR_3R_4-(CH_2)_m-Ar_3$, wherein R_3 and R_4 independently from each other stand for hydrogen, C_1 - C_4 alkyl, or phenyl which can be substituted one to three times with C_1 - C_3 alkyl,

Ar_3 stands for phenyl or 1- or 2-naphthyl which can be substituted one to three times with C_1 - C_8 alkyl, C_1 - C_8 alkoxy, halogen or phenyl, which can be substituted with C_1 - C_8 alkyl or C_1 - C_8 alkoxy one to three times, and m stands for 0, 1, 2, 3 or 4,

Ar_1 and Ar_2 , independently from each other, stand for



R_6 and R_7 , independently from each other, stand for hydrogen, cyano, halogen, C_1 - C_6 alkyl, $-NR_8R_9$, $-OR_{10}$, $-S(O)_nR_8$, $-Se(O)_nR_8$, or phenyl, which can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy,

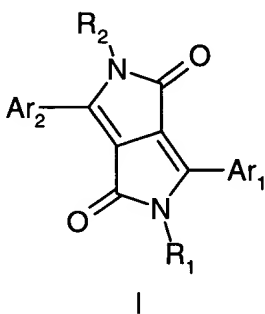
wherein R_8 and R_9 , independently from each other, stand for hydrogen, phenyl, C_1 - C_{25} -alkyl, C_5 - C_{12} -cycloalkyl, $-CR_3R_4-(CH_2)_m-Ph$, R_{10} , wherein R_{10} stands for C_6 - C_{24} -aryl, or a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms,

wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein Ph , the aryl and heterocyclic radical can be substituted one to three times with C_1 - C_8 alkyl, C_1 - C_8 alkoxy, or halogen, or

R_8 and R_9 stand for $-C(O)R_{11}$, wherein R_{11} can be C_1-C_{25} -alkyl, C_5-C_{12} -cycloalkyl, R_{10} , $-OR_{12}$ or $-NR_{13}R_{14}$, wherein R_{12} , R_{13} , and R_{14} stand for C_1-C_{25} -alkyl, C_5-C_{12} -cycloalkyl, C_6-C_{24} -aryl, or

R_8 and R_9 , independently of one another, stand for a saturated or unsaturated heterocyclic radical comprising five to seven ring atoms, wherein the ring consists of carbon atoms and one to three hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, wherein the heterocyclic radical can be substituted one to three times with C_1-C_8 alkyl or C_1-C_8 alkoxy, or $-NR_8R_9$ stands for a five- or six-membered heterocyclic radical in which R_8 and R_9 together stand for tetramethylene, pentamethylene, $-CH_2-CH_2-O-CH_2-CH_2-$, or $-CH_2-CH_2-NR'_5-CH_2-CH_2-$, wherein R'_5 independently from each other, stand for hydrogen, cyano, halogen, C_1-C_6 alkyl, $-OR_{10}$, $-S(O)_nR_8$, $-Se(O)_nR_8$, or phenyl, which can be substituted one to three times with C_1-C_8 alkyl or C_1-C_8 alkoxy, and n stands for 0, 1, 2 or 3.

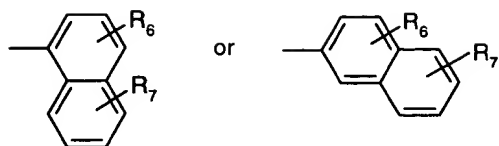
20. (new) Electroluminescent device according to claim 19, wherein the light-emitting substance is a diketopyrrolopyrrole ("DPP") represented by formula I



wherein R_1 and R_2 , independently from each other, stand for C_1-C_{25} -alkyl, or $-CR_3R_4-(CH_2)_m-Ar_3$, wherein R_3 and R_4 independently from each other stand for hydrogen, C_1-C_4 alkyl, or phenyl which can be substituted one to three times with C_1-C_3 alkyl,

Ar_3 stands for phenyl which can be substituted one to three times with C_1-C_8 alkyl, C_1-C_8 alkoxy, halogen or phenyl, which can be substituted with C_1-C_8 alkyl or C_1-C_8 alkoxy one to three times, and m stands for 0, 1, 2, 3 or 4,

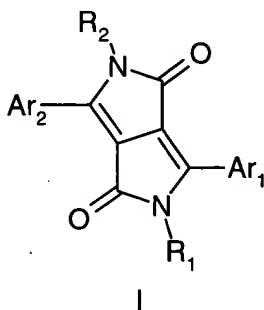
Ar_1 and Ar_2 , independently from each other, stand for



, wherein

R_6 and R_7 , independently from each other, stand for hydrogen, cyano, halogen, C_1 - C_6 alkyl, $-NR_8R_9$, $-OR_{10}$, or phenyl, which can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy, wherein R_8 and R_9 , independently from each other, stand for hydrogen, phenyl, C_1 - C_{25} -alkyl, C_5 - C_{12} -cycloalkyl, $-CR_3R_4-(CH_2)_m-Ph$, or $-NR_8R_9$ stands for a five- or six-membered heterocyclic radical in which R_8 and R_9 together stand for tetramethylene, pentamethylene, $-CH_2-CH_2-O-CH_2-CH_2-$, or $-CH_2-CH_2-NR'_5-CH_2-CH_2-$, wherein R'_5 stand for hydrogen, C_1 - C_6 alkyl, or phenyl, which can be substituted one to three times with C_1 - C_8 alkyl or C_1 - C_8 alkoxy.

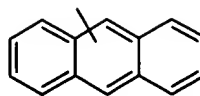
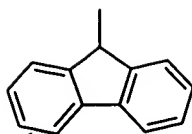
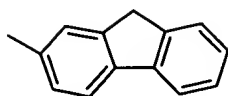
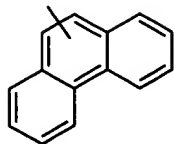
21. (new) Electroluminescent device according to claim 1, wherein the light-emitting substance is a diketopyrrolopyrrole ("DPP") represented by formula I



wherein R_1 and R_2 , independently from each other, stand for C_1 - C_{25} -alkyl, allyl which can be substituted one to three times with C_1 - C_3 alkyl or Ar_3 , or $-CR_3R_4-(CH_2)_m-Ar_3$, wherein R_3 and R_4 independently from each other stand for hydrogen, C_1 - C_4 alkyl, or phenyl which can be substituted one to three times with C_1 - C_3 alkyl,

Ar_3 stands for phenyl or 1- or 2-naphthyl which can be substituted one to three times with C_1 - C_8 alkyl, C_1 - C_8 alkoxy, halogen or phenyl, which can be substituted with C_1 - C_8 alkyl or C_1 - C_8 alkoxy one to three times, and m stands for 0, 1, 2, 3 or 4,

Ar_1 and Ar_2 , independently from each other, stand for



, or

Cancel claims 4, 5, 6, 8-11,